**Coffee and Climate Change by Katherine Pillsbury**1

This data visualization has certain features to support accessibility. First, it has certain text components to guide the reader through the visualization such as a title at the top as well as some descriptions next to the graphs2. For line graph and bar graph near the bottom, the legends are on the graphs to allow people with difficulties recognizing pattern and color to understand the graph2. However, this graph does not have alt text and people with screen reader may not be able to fully understand this data visualization2. The “Top 20 coffee growing country” graph only relies on color to show the difference, but color should not be the only component to convey information3. We cannot reproduce the entire visualization since we don’t have access to the original data tables for these graphs and the scripts4. This visualization doesn’t seem to have too much equitable issue because it presents the coffee production conditions from multiple areas rather than a single region, and it doesn’t have any stereotype labeling5.

To improve accessibility, alt text should be added to describe not only the purpose and conclusion of this visualization, but also more details of the graphs including chart type, legend, trends and so on2. Data tables can also be included as an alternative to the graphs to allow readers using screen reader or mobile devices to learn about information conveyed by the graphs2. To make this visualization more reproducible, the graphs can be plotted in programming languages where a well-commented script can be provided4. In addition to the reference to original data sources, providing datasheets explaining the data processing and usage can also help us determine whether the data processing and resulting graphs are accurate and allow us to reproduce them6.

**The African Water Crisis by Ashely Pierre**7

The accessibility is not good due to the lack of text components such as a title, descriptions, and alt text2. The consequence is that it mostly relies on color to show the water accessibility in different regions worldwide. This disallows readers having difficulty recognizing color or pattern, or those who use screen reader to get a good understanding of this visualization2. This graph also doesn’t seem to be accessible by using only keyboard, which creates barrier to readers using assistive devices that function as a keyboard3. By showing the data in a map format, some regions are very small due to their relatively small areas. This makes it difficult for readers with motor impairment to point their cursor to these small regions, and readers with vision impairment may not see those areas. But fortunately, the author provides a data table as an alternative to increase accessibility2. For reproducibility, we have no access to the scripts and reference list and thus we may not be able to validate the data sources and reproduce the exact same graph4. This visualization seems to be equitable because the data covers different regions worldwide and there is no stereotype labeling5.

To improve accessibility, sufficient text contents should be added, including a title and descriptions about this visualization, as well as alt text to describe all the details about this visualization and allow people with screen reader to fully understand this visualization2. The author can also make the interactive graph accessible to keyboard users10. Regarding reproducibility, script of the plot and a datasheet showing how the data are collected and processed should be shared by the author to increase the transparency of the data source and promote the reproducibility of this visualization4,6.

References:

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5. *Do no harm guide: Applying equity awareness in data visualization*. Urban Institute. (2021, June 9). Retrieved March 27, 2023, from https://www.urban.org/research/publication/do-no-harm-guide-applying-equity-awareness-data-visualization
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7. Pierre, A. (2018, April 2). *The African Water Crisis.* Retrieved March 21, 2023, from https://public.tableau.com/app/profile/ashley.pierre/viz/TheAfricanWaterCrisis/Map